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DEAF EDUCATION

Costs and Student Characteristics at Federally Assisted Schools

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HUMAN RESOURCES
DIVISION

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The Honorable Lowell P. Weicker
Chairman, Subcommittee on the Handicapped
Committee on Labor and Human Resources
United States Senate

Dear Mr. Chairman:

This briefing report responds to your July 11, 1985, request that we compare information on Gallaudet College and the National Technical Institute for the Deaf (NTID) to data from the four centers participating in the Regional Postsecondary Education Program for the Deaf, which is supported in part by the Department of Education. As requested, we have analyzed available data for these schools on (1) student characteristics; (2) per student costs, (3) student academic achievement and subsequent employment, and (4) the schools' abilities to serve more students.

We performed our review at the regional schools, Gallaudet, and NTID, where we collected comparative data for the last three school years. Because we were unable to obtain complete or comparable data for all three years, this document generally makes comparisons for school year 1984-85 only. We urge caution in making cost comparisons between the schools because of the different methods they use in accounting for and reporting their costs. For example, some schools used budget data because actual costs were not available, and the schools used one of three different methods to determine "full-time equivalent students," which influences their estimate of per student costs.

Students in all schools are similar with regard to the severity and age of onset of hearing loss, although Northridge and the Tennessee Consortium had a somewhat larger proportion of students who lost their hearing after age 3. Incoming students tended to come from mainstream school environments at Northridge (57 percent) and NTID (64 percent), while students were more likely to come from deaf-only residential programs at Gallaudet (60 percent) and St. Paul (68 percent). All of the schools admit students with secondary disabilities although the number and types of disabilities varied substantially. Incoming students' academic achievement also varied. For example, the mean reading level for first year students ranged from the 4th grade level at St. Paul to nearly the eighth grade level at NTID.

The average annual cost per student varied from $7,666 at the Tennessee Consortium schools to $25,282 at Gallaudet. However, the costs of similar services at the schools vary much less after such

unique services as research and public service are excluded. For example, Gallaudet and NTID serve as "model schools" for educating the deaf; as such, they carry out certain functions not performed by the other institutions, such as conducting seminars and developing and disseminating information about educating deaf students.

Average Per Student Cost for 1984-85

School	Similar services	Unique services	Total
Northridge	$12,415	$ 0	$12,415
Seattle	12,040	50	12,090
St. Paul	9,809	159	9,968
Consortium	7,666	0	7,666
NTID	14,674	6,939	21,613
Gallaudet	15,941	9,341	25,282

The federal share of total costs ranged from 29 percent at Northridge, which is a large state-supported institution with facilities largely shared by hearing and deaf students, to 85 percent at NTID, where the major support is federal and many facilities are unique to deaf students.

The schools offered a wide range of academic subjects, from vocational courses to liberal arts and graduate studies. Consequently, these schools grant various combinations of certificates, diplomas, and associate, bachelor's, and graduate degrees. Not all schools kept records on their graduates' postgraduation work experience. For the three schools that had such data--St. Paul, NTID, and Gallaudet--the number employed or attending further schooling ranged from 74 to 97 percent for school year 1983-84 graduates.

All schools reported operating at or near their student capacity at current funding levels. Gallaudet officials said they could accommodate 100 more students without an increase in federal costs. The regional schools estimated that their facilities could collectively serve up to 340 more students at a cost of $1.5 million for more staff and better equipment.

As agreed with your office, Gallaudet, NTID, and the regional schools provided oral comments, which were incorporated where appropriate. Also as agreed with your office, we plan no further distribution of this briefing report until 30 days after issuance unless its contents are publicly announced earlier. If you have any questions regarding the contents of this document, call me on (202) 275-5365.

Sincerely yours,

William J. Gainer

William J. Gainer
Associate Director

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ABBREVIATIONS

GAO	General Accounting Office
NTID	National Technical Institute for the Deaf
RIT	Rochester Institute of Technology
SAT	Scholastic Aptitude Test
SVP	Summer Vestibule Program

ISSUES ADDRESSED

- What is the federal share and the total cost per student per year?
- What are the characteristics of students who enter these schools with respect to such factors as severity of hearing loss, academic achievement, and presence of secondary handicapping conditions?
- How successful are these schools in educating their students with respect to such factors as degrees granted, level of academic achievement, and employment of graduates?
- Are the schools operating at full capacity? If so, would more resources enable them to serve additional hearing impaired students?

LOCATION OF SCHOOLS

OBJECTIVES, SCOPE, AND METHODOLOGY

In a July 11, 1985, letter from the Chairman, Subcommittee on the Handicapped, Senate Committee on Labor and Human Resources, we were asked to compare data at Gallaudet, the National Technical Institute for the Deaf (NTID), and the four centers enrolling deaf students who are participating in the Regional Postsecondary Program. We were asked to compare student cost data, student characteristics, the schools' success in educating deaf students, and the schools' capability to serve more deaf students.

We visited and obtained data from the following postsecondary schools:

- Gallaudet College, Washington, D.C.
- NTID (One of nine colleges of the Rochester Institute of Technology--RIT), Rochester, New York.
- California State University, Northridge.
- Seattle Community College.
- St. Paul Technical Vocational Institute.
- University of Tennessee's Postsecondary Education Consortium and its member schools:

  --Central Piedmont Community College.

  --Chattanooga State Technical Community College.

  --DeKalb Community College.

  --New River Community College.

  --St. Petersburg Junior College.

At these schools we attempted to obtain comparative data for the last three school years (1982-83, 1983-84, and 1984-85). Complete or similar data from all the schools for all three school years were not available. Consequently, this report generally compares the schools for school year 1984-85.

The data contained in this report reflect the information the schools reported to the Department of Education. We did not independently verify the data's accuracy. To the extent possible, we have attempted to compare similar data; however, the data were not always comparable because each school used its own method to gather data. For example, to develop the per deaf student costs, we asked each school to classify the costs to

educate its deaf students by using the categories in the Department of Education annual Higher Education General Information Survey. Per student costs are derived by using the ratio of costs to the number of full-time equivalent students. Although the schools used the Education format to accumulate overall costs by category, they used different methods to determine the number of full-time equivalent deaf students. Consequently, the average costs to educate deaf students are not comparable among the schools.

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SCHOOL PROFILE DATA

SCHOOL ENROLLMENT, 1984-85

School	Number of students		Deaf students as percentage of total	Number of years servicing deaf students
	Total	Deaf		
Northridge	28,068	204	0.7	22
Seattle	8,000	104	1.3	17
St. Paul	3,653	165	4.5	17
Consortium schools	57,238	155	0.3	2
NTID	1,297	1,240	95.6	18
Gallaudet	1,969	1,547	78.6	129

The number of students varies significantly among the schools. The five Consortium schools had the largest enrollment, while NTID had the smallest. Seattle had the smallest number of deaf students, while Gallaudet had the largest. As a percentage of total enrollment, the Consortium schools had the smallest percentage of deaf students, while NTID had the largest. The percentage of deaf students at NTID and Gallaudet does not equal 100 percent because both schools have some hearing students enrolled in interpreter training programs. In addition, Gallaudet admits hearing students, who plan to serve the deaf, to its graduate program.

The time that the schools have been providing services to deaf students varies from 2 years for the Consortium schools to 129 for Gallaudet.

GENERAL SCHOOL DATA

School	Location	Campus size		Admission requirements
		Acres	Buildings	
California State University, Northridge	Metropolitan Los Angeles	350	18	High school graduate with a qualifiable eligibility index and has completed, with grades of C or better, at least 4 years of English, and 2 years of math at the college preparatory level.
Seattle Community College	Seattle, Washington	10	25	High school graduate or persons 18 years of age or older.
St. Paul Technical Vocational Institute	St. Paul, Minnesota	22	1	High school seniors and adults.
Postsecondary Education Consortium	Univ. of Tenn. Knoxville			
Central Piedmont Community College	Charlotte, North Carolina	33	23	High school graduates.
Chattanooga State Technical Community College	Chattanooga, Tennessee	100	8	High school graduates.
DeKalb Community College	Metropolitan Atlanta, Georgia	300	22	High school graduates.
New River Community College	Dublin, Virginia	100	2	High school graduates or persons 18 years of age or older.
St. Petersburg Junior College	Metropolitan St. Petersburg, Florida	163	42	High school graduates and adults.
National Technical Institute for the Deaf	Rochester Institute of Technology Rochester, New York	1,300	30[a]	Students must need special help because of deafness and have a measured hearing loss of at least 70 decibels in their better ear and have an average achievement level of 8th grade or better.
Gallaudet College	Washington, D.C.	108	60	Students must pass an entrance examination and be high school graduates. With the exception of the students enrolled in the graduate and interpreter training programs, students must be deaf.

[a]NTID has two academic buildings for its own use and owns three residence halls and a dining facility. This arrangement allows NTID access to 800 beds anywhere within the RIT dormitory complex and access to any of the three dining facilities on the RIT campus.

GENERAL SCHOOL DATA

Gallaudet College is in Washington, D.C., and NTID is on the campus of RIT in Rochester, New York. They are federally funded postsecondary schools for the deaf. Gallaudet, established in 1857, is the only liberal arts college for the deaf in the world. NTID, established by the Congress in 1965, provides postsecondary technical and professional training for the deaf.

California State University, Northridge; Seattle Central Community College; St. Paul Technical Vocational Institute; and the Postsecondary Education Consortium at the University of Tennessee, Knoxville, are the four centers participating in the Regional Postsecondary Program. The Consortium member schools are Central Piedmont Community College, Chattanooga State Technical Community College, DeKalb Community College, New River Community College, and St. Petersburg Junior College. The Tennessee staff provides assistance and guidance to its member schools, which provide educational services to deaf students.

The schools, with one exception (New River Community College), are in metropolitan areas in the eastern, midwestern, and western parts of the country. The campuses vary in size and in number of buildings. The smallest campus is Seattle with 10 acres, while NTID is part of the 1,300-acre RIT campus. The number of buildings ranges from 1 at St. Paul to 60 at Gallaudet.

The general admission requirements also vary among the schools. Community and junior colleges require high school graduates, persons who are 18 years old, or adults. One school allows high school seniors to take courses. Two schools generally require that the students be deaf, while another uses test scores and high school degree with certain courses and grades as admissions criteria.

Gallaudet and NTID are national schools in that they recruit potential students from all over the United States. These schools serve primarily students diagnosed as deaf, and the number of students in a classroom is generally smaller than at the regional schools. However, some NTID students attend classes with hearing students from RIT. (Of NTID students, 20 percent take all of their classes with hearing students and 60 percent have at least one class with hearing students.) Both schools provide dormitories and eating facilities for their students. In contrast, the regional schools tend to focus their recruiting on certain areas of the country and are primarily commuting schools with limited or no campus housing for deaf students. The students at the regional schools mostly attend classes with hearing students.

SCHOOL PROGRAMS

School	Degrees offered	Department/programs Examples	Courses offered Examples
Northridge	Bachelor's Master's	Arts Sciences Business Administration	Engineering and Computer Science Economics Art
Seattle	Associate Certificates Diplomas	Sciences Health Vocational	Nursing Bookkeeping Carpentry
St. Paul	Diplomas Certificates	Trade and Industrial Business Health	Auto Body Repair Data Processing Cosmetology
Postsecondary Educational Consortium			
Central Piedmont	Associate Certificates Diplomas	Occupational Fields Skilled Craftsman Fields	Accounting Food Preparation Welding
Chattanooga State	Associate Certificates	Allied Health Arts and Humanities Vocational/Industrial Technology	Dental Hygiene Child Care Aviation
DeKalb Community College	Associate Certificates Diplomas	Transfer Programs Career Programs	Liberal Arts Drafting Landscape Technology
New River Community College	Associate Certificates Diplomas	Occupational-Technical University Parallel-College Transfer General Education	Correctional Science Career Studies Machine Operations
St. Petersburg Junior College	Associate Certificates	University Parallel Associate Degree and Certificate General Education	Architecture Health Care Management Executive Secretary
NTID[a]	Associate Diploma Certificate	Business Engineering Technologies Visual Communications	Business Occupations Civil Technology Applied Photography
Gallaudet College	Associate Bachelor's Graduate	Arts and Sciences Communications Education and Human Services	Counseling Sign Communication International Studies

[a]NTID students may be eligible to obtain associate, bachelor's, and master's degrees through other RIT colleges.

SCHOOL PROGRAMS

The regional schools, NTID, and Gallaudet offer a variety of degrees to deaf students. St. Paul offers diplomas and certificates, while NTID and the community and junior colleges offer associate degrees, diplomas, and/or certificates. NTID deaf students may also obtain associate, bachelor's, and master's degrees through other RIT colleges. Gallaudet deaf students can obtain associate, bachelor's and graduate-level degrees (masters, education specialist, and doctorate). Deaf students at Northridge may obtain bachelor's and master's degrees.

The schools have various departments and/or programs. The community and junior colleges offer vocational career programs and/or programs whereby students may later transfer to 4-year colleges. St. Paul's program focuses on career programs in the trade/vocational area; NTID's program focuses on career programs in the technical areas; while Gallaudet and Northridge have programs in the liberal arts.

The courses offered by the schools also vary in subject matter. For example, Northridge has a course in deaf studies, Gallaudet in counseling, NTID in civil technology, Seattle in carpentry, St. Paul in cosmetology, and Chattanooga State in aviation. The multitude of course offerings at the regional schools, NTID, and Gallaudet provide deaf students many choices in postsecondary education.

PREPARATORY PROGRAMS FOR DEAF STUDENTS

Institution[a]	Length of program	Brief description of program content
Northridge	Four weeks in summer[b]	Orientation Program, Communication & English Courses, Counseling, Student Evaluation, and Planned Activities
Seattle	One quarter	Orientation & Evaluation, Testing, College Program Visitation & Sampling, Preparation for College Program Entry, Math, and English
St. Paul	Twelve weeks in fall, winter & spring; eight weeks in summer	Vocational Assessment, Physics Formulas, Mathematics, English/Communication, Health, and Money Management
New River Community College	Up to one year (5 hours per week)	English, Mathematics, Reading, Independent Living Skills, and Career Exploration & Development
St. Petersburg Junior College	Four weeks	Orientation, Placement Testing, Daily Living Skills, Career Planning, College Survival Skills, and Vocabulary
NTID[c]	Four weeks	Program Sampling, Career Planning, Mathematics & Communication Evaluation/ Assessment, General Education Seminars, and Social Activities
Gallaudet	One year or more	English, Mathematics, Science, Physical Education Activities, Health, Communication in Human Relationships, Academic Survival Skills, and Sign Language

[a]Central Piedmont, Chattanooga State, and DeKalb Community College did not offer preparatory programs as of February 1986. Central Piedmont, however, is scheduled to offer a mandatory preparatory program beginning in October 1986.

[b]Will be increased to 6 weeks in the summer of 1986.

[c]Students who are not ready to select a program of study (major) following a 4-week Summer Vestibule Program may participate in Career Exploration activities for from one to three quarters to help them reach a decision. Career Exploration includes general course work, program sampling, counseling, and interpretation of interest, aptitude, and achievement testing.

DEAF STUDENT CHARACTERISTICS

DEGREE OF HEARING LOSS[a] FOR STUDENTS ENTERING SCHOOL IN 1984-85[a]

Institution	Percent of class		
	70 decibels or greater	Less than 70 decibels	Unknown
St. Paul	95	5	0
NTID	95	5	0
Gallaudet	89	8	3
Seattle	92	8	0
Northridge	80	16	4
Consortium	76	24	0

[a]The degree of hearing loss pertains to the student's better ear.

The students served by the regional programs, NTID, and Gallaudet are similar regarding the degree and onset of their hearing loss.

Between 76 and 95 percent of the students at these schools are severely or profoundly deaf. The extent of hearing loss is measured by decibels (db), or the point at which a human ear perceives sound. The normal threshold of hearing is called "0 db." A whisper registers at 30 db, a normal conversational tone at 60 db, a shout at 90 db. A hearing threshold of 55-69 db is generally recognized as a moderately severe hearing loss; a threshold of 70-89 db as a severe loss, and a hearing threshold of 90 db or more as a profound hearing loss. At a threshold of 90 db, an individual would miss everything the human voice is likely to produce, as well as almost every other sound that has meaning in human culture.[1]

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[1]Beryl Leiff Benderly, Dancing Without Music, Garden City, 1980, page 30.

PREPARATORY PROGRAMS FOR DEAF STUDENTS

At 7 of the 10 schools, preparatory programs are offered to deaf students to ease the transition from high school to college. These programs range in length from 4 weeks to 1 year or more. They are designed to acquaint students with the campus, evaluate and strengthen basic academic and communication skills, assist students with choosing a course of study, and help them with both personal and school-related problems. Preparatory programs also enable counselors to identify students who are unable to do the required work and help them select an alternate career path.

Both school officials and students consider preparatory programs beneficial. According to NTID officials:

> "During SVP [Summer Vestibule Program], students learn about the various programs offered by NTID at RIT while the institute learns about the students' skills, abilities and motivation. By this mutual process, the students benefit by gaining more information about themselves, which will assist in the selection of the most appropriate major in the fall."

A St. Paul official stated:

> "Since the implementation of the evaluation program [one of the components of the preparatory program], students' adjustment to training, ability to make an appropriate career choice, and their overall success in training and job placement strongly suggests that vocational evaluation at St. Paul T.V.I. [Technical Vocational Institute] has been a critical factor in their success."

At Northridge, deaf students who evaluated the National Center of Deafness summer school program rated it "highly successful." As a result, the center plans to expand its program to coincide with the regular Northridge summer session so that partial mainstreaming into summer classes will be possible.

Finally, according to Gallaudet officials, many students would be unable to attend the college if it were not for the School of Preparatory Studies or a similar program. For school year 1984-85, between 60 and 70 percent of Gallaudet's newly admitted students needed this preparatory program because they are not fully prepared to begin their regular college classes. For example, students who do not demonstrate basic skills in English and mathematics are not allowed to take college-level courses in these areas.

ONSET OF HEARING LOSS FOR
STUDENTS ENTERING SCHOOL IN 1984-85

Institution	Percentage of students losing their hearing at		
	Age 0-3 years	Older than 3 years of age	Unreported
NTID	95	5	0
Gallaudet	94	6	0
Seattle	89	11	0
Northridge	85	12	3
St. Paul	85	2	13
Consortium	87	13	0

Between 85 and 95 percent of the students became deaf at birth or before they reached 3 years of age.

Deafness itself does not affect a person's intellectual capacity or ability to learn.[2] However, the degree and onset of hearing loss are two factors that may influence a deaf person's school achievement. Because children normally learn to speak and understand language by listening, the earlier a hearing loss occurs, the greater adverse impact it will have on the person's mastery of language and resulting ability to speak or lip read.

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[2]Gallaudet College and the National Association of the Deaf, Deafness, Gallaudet College, 1984.

SECONDARY DISABILITIES OF
FIRST YEAR DEAF STUDENTS
SCHOOL YEAR 1984-85

Institution	Deaf program enrollment	Number of students with secondary disabilities	Percentage
Gallaudet	581	48	8
Consortium	155[a]	23	15
Northridge	70	10	14
Seattle	88	16	18
St. Paul	165[a]	56	34
NTID[b]	484	-	-

	Percentage of students experiencing particular secondary disabilities[c]				
Institution	Visual	Neurological & orthopedic	Emotional/ behavioral	Learning	Other
Gallaudet	67	35	0	2	0
Consortium	39	39	22	0[d]	22
Northridge	30	30	0	10	30
Seattle	25	50	0	19	6
St. Paul	21	20	45	27	29
NTID[b]	-	-	-	-	-

[a]Represents total deaf program enrollment.

[b]NTID does not keep formal statistics about its students' secondary disabilities. However, for the 1985-86 school year, NTID has 10 mobility-impaired students who require special services and about 200 students, or 14 percent of the total student body, who have noncorrectable vision impairments.

[c]Percentages include students with multiple secondary disabilities; therefore, the table may add to more than 100 percent.

[d]Learning disabilities were acknowledged by at least one Consortium school, but no statistics are available.

SECONDARY DISABILITIES OF FIRST YEAR DEAF STUDENTS

The regional schools, NTID, and Gallaudet all admit students with secondary disabilities (including physical, emotional, and learning disabilities).

Secondary physical disabilities, especially visual, neurological, and orthopedic disorders, constitute the majority of the disabilities reported at the schools. Among students with secondary disabilities, the percentage with visual impairments ranges from 21 at St. Paul to 67 at Gallaudet, while the percentage with neurological and orthopedic disorders, such as cerebral palsy and arthritis, ranges from 20 at St. Paul to 50 at Seattle.

In addition to secondary physical conditions, four of the schools reported having students with emotional/behavioral disorders and/or learning disabilities. St. Paul had the largest number of students in these categories. School counselors and instructors identified emotional/behavioral problems in 45 percent of the students with secondary disabilities in the 1984-85 incoming class, and they identified learning disabilities in 27 percent of the students.

The number of secondary disabilities reported may be understated because deaf students are often reluctant to acknowledge them. At Gallaudet, for example, 33 students identified secondary disabilities on application forms in 1984-85; however, the Office of Special Services provided services to 48 students with disabilities in addition to deafness. The number of secondary disabilities may also be understated, according to an official at St. Paul, because it is often difficult for school personnel to distinguish secondary disabilities, such as learning disabilities and emotional/behavioral problems, from problems related to the student's deafness.

Students with secondary disabilities require various special support services. For example:

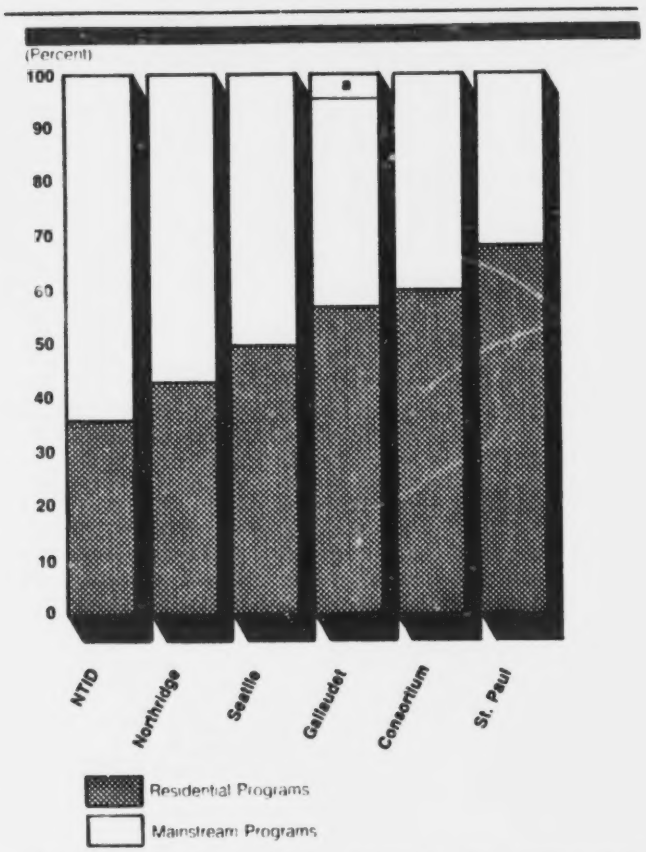
--Braille textbooks must be prepared for deaf/blind students, according to Northridge officials.

--Transportation, such as the specially equipped van purchased by NTID, must be provided for mobility-impaired students.

--Additional counseling, tutoring, and support from instructors must be available for students with learning disabilities and emotional/behavioral problems, according to a St. Paul official.

Such special support services require resources beyond those needed for students whose only disability is hearing impairment.

EDUCATIONAL ENVIRONMENT OF FIRST YEAR DEAF STUDENTS, SCHOOL YEAR 1984-85



[a] No information was available for 5 percent of Gallaudet's students

Residential Programs are programs exclusively for deaf students. The students in these programs may actually live at schools for the deaf or they may attend such schools on a day school basis and live at home. Fifteen to 20 percent of the students are in the latter category.

Mainstream Programs are programs in which deaf students attend school with hearing students. The deaf students may either be placed in self-contained classes or attend the same classes as the hearing students. For our purposes, students who attended hearing schools with special support services for the deaf were included in this category.

PAST EDUCATIONAL ENVIRONMENT OF FIRST YEAR DEAF STUDENTS

The educational training received by students before entering the regional schools, NTID, and Gallaudet was given either in a residential or mainstream environment, as defined on the preceding page. The percentage of students coming from these environments varied widely among the schools.

In school year 1984-85, the percentage of incoming students who attended residential schools ranged from 36 percent at NTID to 68 percent at St. Paul. The other 64 percent of the incoming students at NTID and 32 percent at St. Paul had attended mainstream programs. Although we are not certain why such a wide variance exists, we can offer some possible explanations.

Sixty percent of the incoming students at Gallaudet College came from residential schools in school year 1984-85. As the world's only liberal arts college for the deaf, Gallaudet provides an environment similar to that of the residential schools. According to Gallaudet alumni, deaf students can be very comfortable in this environment. Moreover, because many residential school teachers have graduated from Gallaudet themselves, they may also encourage their students to attend Gallaudet.

The percentage of incoming students from residential schools at St. Paul (68 percent) was even higher than at Gallaudet. According to the school's recruiting officer, St. Paul has traditionally centered its recruiting efforts at residential schools. This may partly account for the large proportion of residential school students who decide to attend St. Paul.

Students who enroll at NTID and Northridge apparently tend to come from mainstream programs. In school year 1984-85, 64 percent of the incoming students at NTID and 57 percent at Northridge were from mainstream programs.

NTID's program is structurally comparable to those secondary mainstream programs with self-contained, integrated classes. Although deaf students attend self-contained classes at NTID, 60 percent of them take at least one class with hearing students in the other RIT colleges. In addition, 20 percent of NTID's deaf students are fully mainstreamed in the other colleges.

At Northridge, on the other hand, deaf students are fully integrated into classes with hearing students. Students with whom we spoke, as well as students who participated in a 1985 Northridge survey, said that one of the reasons they selected Northridge was because they wanted the challenge of competing with hearing students.

ACADEMIC ACHIEVEMENT LEVELS
OF FIRST YEAR DEAF STUDENTS,
SCHOOL YEAR 1984-85

Institution	Mean grade equivalent levels[a] Reading	Mathematics
St. Paul	4.0	5.8
Seattle	4.6	6.4
Consortium:		
DeKalb	[b]	8.8
Central Piedmont	5.0	5.0
New River	5.2	6.4
St. Petersburg	5.8	6.7
Chattanooga	[c]	[c]
NTID	7.9	9.9
Gallaudet:		
Preparatory students	5.1	8.9
Freshmen	8.0	11.4
Northridge	[c]	[c]

[a]Mean grade equivalent levels are expressed in terms of grade and month; for example, 5.8 represents grade 5, month 8.

[b]Not available.

[c]Mean reading and mathematics grade equivalent levels were not available for Northridge and Chattanooga State students. Northridge uses the Scholastic Aptitude Test (SAT) or the American College Testing Program Composite to measure the aptitude of incoming students. Chattanooga State uses the latter.

ACADEMIC ACHIEVEMENT OF FIRST YEAR DEAF STUDENTS

The academic achievement levels of incoming deaf students varied among the schools. Mean reading and mathematics grade equivalent levels were not available for Northridge and Chattanooga State students. However, incoming students at St. Paul and four of the community colleges scored reading grade equivalents ranging from 4.0 to 5.8 and mathematics equivalents ranging from 5.0 to 8.8. These scores are based upon standardized tests, such as the Test of Adult Basic Education.

Incoming NTID students scored grade equivalents of 7.9 in reading and 9.9 in mathematics. Gallaudet accepts two types of incoming students: freshmen and preparatory students. Freshmen are directly admitted into the college proper; preparatory students, who are not fully prepared to enter the college, enter Gallaudet's School of Preparatory Studies. The achievement levels of these two groups are quite different. Freshmen averaged grade equivalents of 8.0 in reading and 11.4 in mathematics, while preparatory students scored grade equivalents of 5.1 and 8.9, respectively.

The achievement levels of incoming students generally correspond with the academic requirements of the programs offered by the schools. St. Paul, for example, offers technical-vocational programs that lead to certificates and diplomas. Because of this, less emphasis is placed upon academic subjects than the practical application of the skills being taught. At NTID, students have the opportunity to pursue associate degrees in technical subjects and complete bachelor's degree requirements at RIT. The academic requirements for these degrees are more extensive than for diplomas and certificates.

The eligibility of students who wish to attend Northridge is determined, in part, by their scores on achievement tests such as the SAT. In school year 1984-85, the mean verbal (reading) score for incoming deaf students was 290.89, as compared with 405.00 for hearing students. The mean quantitative (mathematics) score for deaf students was 411.87, while that for hearing students was 468.00.

Although deaf students score lower than their hearing counterparts on the SAT, they are able to compete successfully with them in the classroom. In May 1982 the Educational Testing Service stated that the SAT had underpredicted the first-year college grades of deaf students at Northridge but asserted that the scores might have been more accurate if Northridge had not provided such outstanding support services. Too few students at Chattanooga State took the American College Testing Program Composite in 1984-85 to make the scores meaningful.

COST DATA

CAUTION ON COMPARING COST DATA

We urge caution in comparing the costs at the schools for a number of reasons. These include:

1. We did not independently verify the data provided by each school to assure it was accurate and complete.

2. The schools did not use consistent data in calculating estimated costs per deaf student. For instance:

   --One school used budget data (because actual cost data was not available for the 1984-85 school year), whereas another school used actual costs.

   --One school did not include research and public service costs in its computation (because its accounting system does not compute such data), whereas two other schools included these costs and still another did not specify.

3. The schools did not use consistent methods of computing per student costs. For instance, the schools used different methods to determine the number of "full-time equivalent deaf students" by which total costs are divided to determine per student costs.

4. The schools did not all provide the same type of programs and/or services to deaf students. For instance:

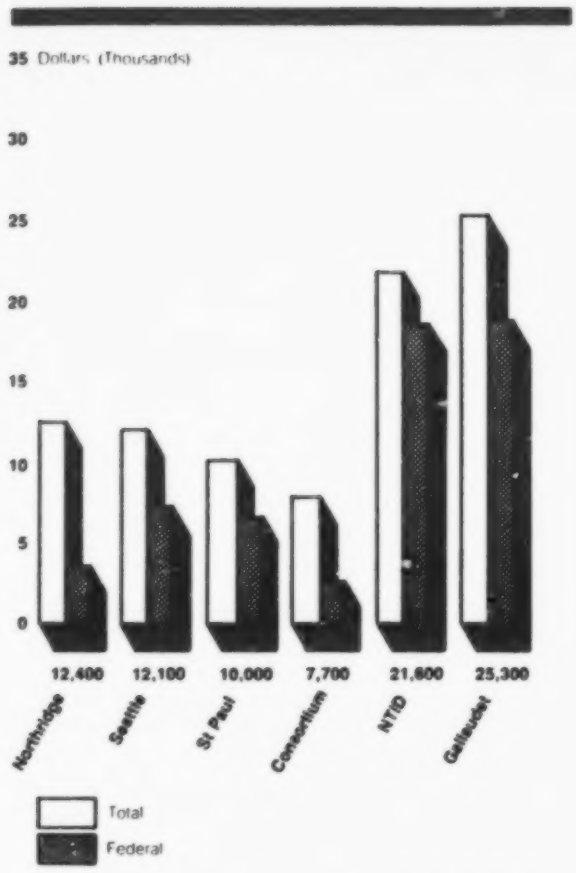
   --Gallaudet and NTID generally do more research and provide more public service activities than the regional schools, and the costs of these activities were included in computing per student costs.

   --The regional schools are basically commuting schools, while Gallaudet and NTID provide housing and food service facilities for deaf students, and these costs were included in computing per student costs.

   --Two of the schools provide primarily technical education, which according to NTID officials, is more costly than a liberal arts education due to large expenditures for equipment and small class size dictated by the limited number of work stations available.

We segregated costs among the schools for similar and unique services (see pp. 28 to 31).

FEDERAL SHARE OF TOTAL COSTS PER DEAF STUDENT, SCHOOL YEAR 1984-85

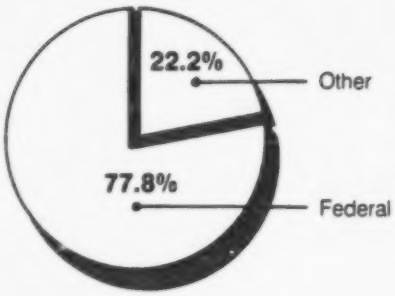


School year 1984-85 per student costs to educate deaf students, as computed by the various schools, ranged from an average of $7,666 at the five Consortium schools to $25,282 at Gallaudet. The federal share of per student costs ranged from $2,487 at the Consortium schools to $19,669 at Gallaudet.

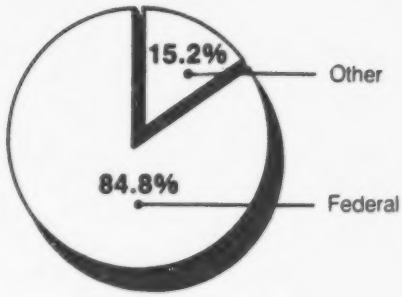
COSTS PER DEAF STUDENT: PERCENT OF FEDERAL AND OTHER

(1984-85)

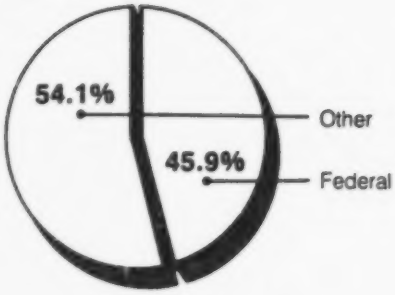
Gallaudet



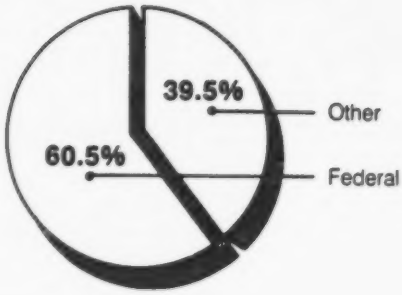
NTID



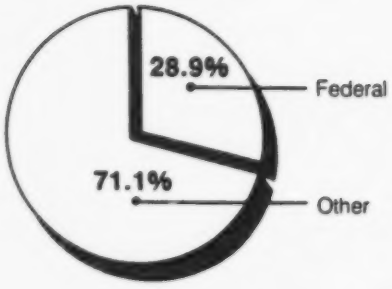
St. Paul



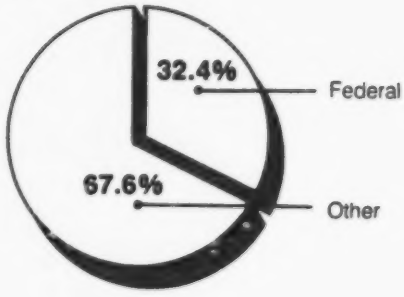
Seattle



Northridge



Consortium



COSTS PER DEAF STUDENT: FEDERAL AND OTHER

During school year 1984-85 the federal share of per student costs to educate deaf students at the schools ranged from 85 percent of total costs at NTID to 29 percent at Northridge.

Unlike the regional schools, over 75 percent of the costs to educate deaf students at Gallaudet and NTID comes from federal appropriations. The remaining costs are mostly funded through student tuition and fees. At the regional schools, the federal share ranged from 60 percent at Seattle to 29 percent at Northridge. All the regional schools receive state assistance as well as student tuition and fees to offset the costs to educate deaf students. The differences in the federal share between Gallaudet, NTID, and the regional schools occurs because Gallaudet and NTID are national schools created and funded by the Congress to educate deaf students. In contrast, the deaf programs at the regional schools are supplemental programs at state and community colleges which provide services to deaf students attending these schools.

COSTS PER DEAF STUDENT
FOR SIMILAR SERVICES,
SCHOOL YEAR 1984-85

	Consortium	St. Paul	Seattle	Northridge	NTID	Gallaudet
Education costs:						
Instruction	$2,255	$6,987	$ 2,361	$ 2,791	$ 6,420	$ 6,353
Academic support	791	455	4,174	8,084	2,539	2,111
Student services	2,262	779	1,373	353	2,037	1,920
Subtotal	5,308	8,221	7,908	11,228	10,996	10,384
Support costs:						
Institutional support	1,898	838	2,731	458	2,493	2,665
Plant operations and maintenance	308	713	1,363	391	1,061	2,001
Scholarships fellowships	152	37	38	338	124	891
Subtotal	2,358	1,588	4,132	1,187	3,678	5,557
Total	$7,666	$9,809	$12,040	$12,415	$14,674	$15,941

DISCUSSION OF SIMILAR SERVICES

We have classified the schools' costs to educate deaf students into two categories: (1) similar services, which are the costs that schools incur to educate deaf students on their campus, and (2) unique services, which are major costs not incurred by all of the schools. As shown by the table on the previous page, during school year 1984-85, the average annual cost of providing similar services to deaf students ranged from $7,666 per student at the Consortium schools to $15,941 at Gallaudet.

At our request the schools provided us their costs using Department of Education-approved cost categories; however, they differed in which costs they put in each category. To minimize inconsistency with these data, we tried to group similar costs by combining the Department of Education categories into two major groups--education costs and support costs.

Education costs

The schools allocated the costs of educating deaf students to one or more of three cost categories--instruction, academic support, and student services. These costs include salaries and benefits for instructors, interpreters, counselors, notetakers, and tutors.

Northridge had the highest education costs per deaf student, followed closely by Gallaudet and NTID. We do not know why Northridge costs are higher than the other schools. However, one contributing factor is that, during school year 1984-85, Northridge's average teachers' compensation (salary and fringe benefits) was higher than any of the other schools.

Gallaudet and NTID, with the highest percentage of deaf students, had the next highest per deaf student education costs. This may be because both schools use a method of teaching deaf-only students in which instructors use both voice and sign communication. According to a Gallaudet official, this teaching method contributes, in part, to smaller classroom sizes. For example, Gallaudet has a student/teacher ratio of 7.1 to 1. In contrast, the regional schools mostly use mainstream classes, which combine deaf with hearing students. In these cases interpreters and notetakers are used for class communication with deaf students. The student/teacher ratios at the regional schools ranged from 13.1 to 1 at St. Paul to 23 to 1 at Seattle.

Support costs

The major support cost at each of the schools was institutional support. This category includes college administrative costs incurred to educate deaf students. At Gallaudet these costs are directly incurred. However, at some of the other schools, these administrative costs are partially negotiated between the school and the Department of Education. For example, as a result of such negotiations, 12.4 percent of NTID total costs is for administrative services provided by RIT, with whom NTID is affiliated. In the case of Seattle, negotiations resulted in the college using 37.5 percent of its grant to cover indirect costs. (Of this 37.5 percent, 8 percent is charged to the grant and 29.5 percent is received from the college as an in-kind contribution to the deaf program.) The college then applied a portion of this amount ($725 per deaf student) to institutional support, and a portion of the remainder ($803 per deaf student) to plant operation and maintenance.

Although plant and operations expenses are incurred at all schools, Gallaudet has a self-contained campus and NTID has six buildings dedicated primarily for the deaf, which may explain why their per student costs are relatively high. Seattle's plant operations and maintenance costs are also relatively high. As mentioned in the preceding section, this is a result of the school being allowed to apply 37.5 percent of its grant toward indirect services provided by the college.

COST PER DEAF STUDENT FOR UNIQUE SERVICES, SCHOOL YEAR 1984-85

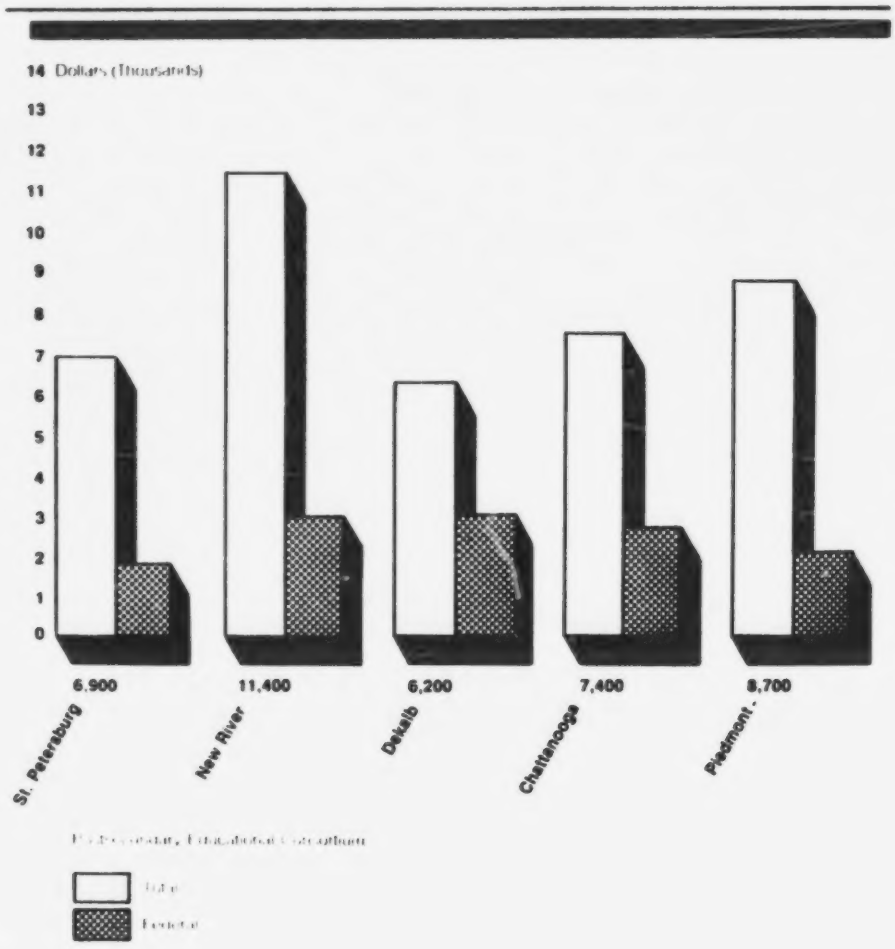
Services	Consortium	St. Paul	Seattle	Northridge	NTID	Gallaudet
Research	0	$159	$ 0	0	$ 607	$2,437
Public and special services	0	0	0	0	3,640	3,620
Other	0	0	50	0	2,692	3,284
Total	0	$159	$50	0	$6,939	$9,341

DISCUSSION OF UNIQUE SERVICES

Some of the costs the schools incurred were for activities unique to individual schools. Public service, for example, is a major cost that is unique to Gallaudet and NTID, which serve as "model schools" for educating deaf students. As part of its mission, Gallaudet distributes educational services and products to a nationwide audience. NTID has specialized communication and language courses for students, national recruitment and placement functions, and manual communications courses for faculty and staff. Other public service activities provided by these schools include, among other things, conducting seminars and other training activities as well as developing and disseminating materials to further education of the deaf. Although only Gallaudet and NTID provided us with specific public service costs, a Northridge official advised us that it also conducts public service activities, such as maintaining a special library on deafness which is used by researchers and others, but such costs were included in other categories.

The "other" costs for Gallaudet contain the costs to operate and maintain the dormitories, food services facilities, and college bookstore. The NTID other costs include capital projects, and operation and maintenance costs for dormitories and food service facilities. The regional schools primarily served commuting students and therefore do not incur comparable costs.

FEDERAL SHARE OF TOTAL COSTS PER DEAF STUDENT AT THE CONSORTIUM SCHOOLS, SCHOOL YEAR 1984-85



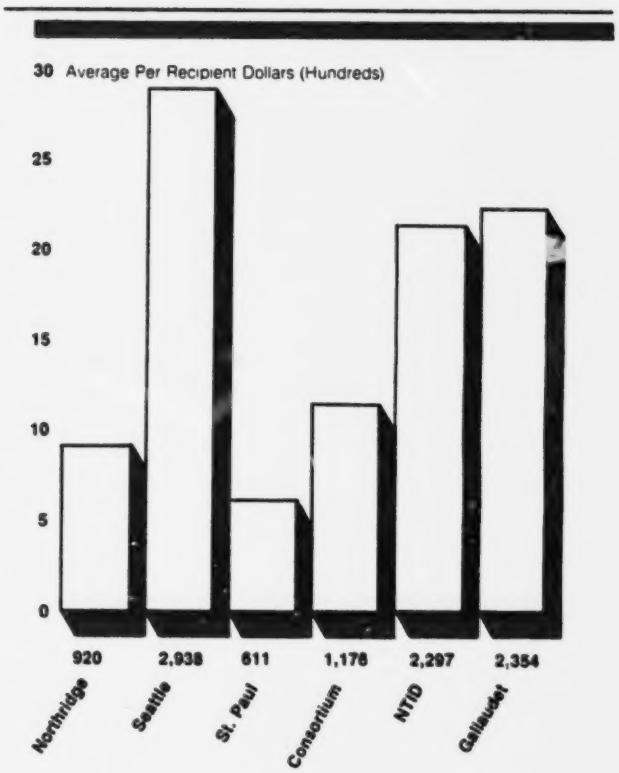
COSTS PER DEAF STUDENT AT THE CONSORTIUM SCHOOLS

Our prior discussions treat the Consortium as a single unit; however, it is made up of five schools. Looking at these schools separately, we found school year 1984-85 average per student costs to educate deaf students ranged from $6,177 at Dekalb to $11,403 at New River. The federal share of per student costs ranged from $1,784 at St. Petersburg to $2,960 at Dekalb.

School year 1984-85 full-time (hearing and deaf) student equivalents varied significantly among the schools--from 1,379 at New River to 11,681 at Central Piedmont. The full-time deaf student equivalents ranged from 32 at New River to 66 at Dekalb. The school with the highest per student costs is New River, which has the smallest enrollment. Since all the schools have a program coordinator and provide interpreting, notetaking, and tutoring support, one factor contributing to the higher per student costs is low enrollment. This is also illustrated by the fact that Dekalb, with the largest number of full-time deaf student equivalents, was the school with the lowest per student cost.

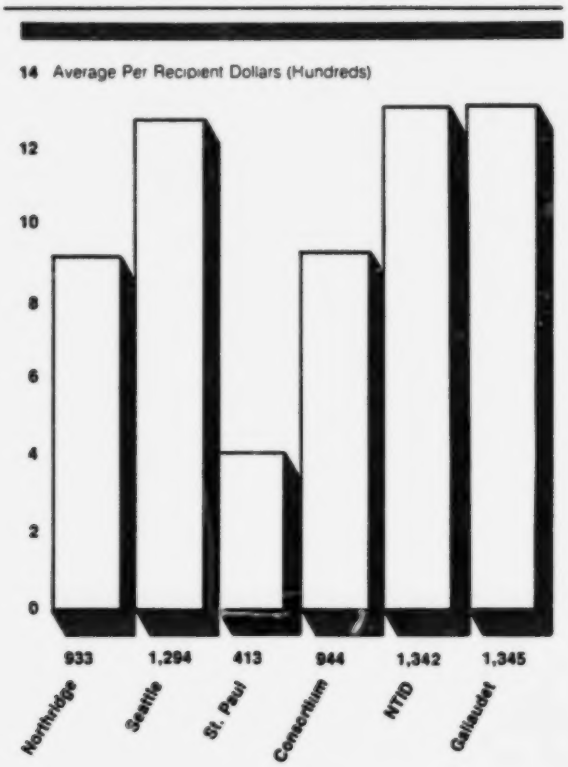
Another factor contributing to the variance in the costs is the composition of the support staff at the schools. Central Piedmont, which had the second highest per student cost, was the only school in the 1985 fall quarter with a full-time counselor assigned to its deaf program. The school also had the largest number of full- and part-time interpreters.

VOCATIONAL REHABILITATION ASSISTANCE RECEIVED PER DEAF RECIPIENT, SCHOOL YEAR 1984-85



Vocational Rehabilitation grant assistance was the largest single category of assistance received by deaf students at the 10 schools. This federal/state shared assistance ranged from an average per recipient of $611 at St. Paul to $2,938 at Seattle. A total of 2,606 students received this assistance during school year 1984-85. Gallaudet and NTID accounted for 1,999 of these students.

PELL GRANT ASSISTANCE RECEIVED PER DEAF RECIPIENT, SCHOOL YEAR 1984-85



Pell grants were the second largest category of student assistance. This federal assistance ranged from an average per recipient of $413 at St. Paul to $1,345 at Gallaudet. A total of 1,035 students received this assistance, with Gallaudet and NTID having 847 recipients.

TOTAL FEDERAL COSTS PER DEAF STUDENT, SCHOOL YEAR 1984-85

Institution	Federal share of school program costs	Federal share of student assistance[a]	Total
Consortium	$ 2,487	$ 531	$ 3,018
Northridge	3,586	887	4,473
St. Paul	4,574	1,444	6,018
Seattle	7,317	1,937	9,254
NTID	18,327	1,433[b]	19,760
Gallaudet	19,669	1,027[c]	20,696

[a]These amounts represent the grant assistance to deaf students as reported by the schools. The types of assistance reported varied among the schools. For instance, one school included social security supplemental insurance and social security disability insurance, while the others did not. In addition, three schools reported that deaf students received federal college work study grants, but the other three schools did not.

[b]The NTID amount excludes $127 of NTID grant-in-aid assistance, which was included as part of the costs in the scholarship and fellowship category.

[c]The Gallaudet amount excludes $329 of federal student assistance, which was included as part of the costs in the scholarship and fellowship category.

TOTAL FEDERAL COSTS PER DEAF STUDENT

In addition to the federal share of school program costs, the government also provides assistance in the form of grants to deaf students attending the regional schools, NTID, and Gallaudet. Although the schools do not control the amount of student assistance, it is part of the federal costs associated with the student attending the school. Therefore, to determine a more accurate picture of the federal cost per deaf student, the federal share of school program costs must be combined with the federal share of student assistance. During school year 1984-85, the total federal costs ranged from an average of $3,018 for the Consortium schools to $20,696 at Gallaudet.

FINANCIAL ASSISTANCE TO DEAF STUDENTS

Financial assistance to deaf students at the regional schools, NTID, and Gallaudet totaled $9.6 million for school year 1984-85. This assistance consisted of loan guarantees and grants from government and private sources. Grants to students totaled $8.4 million, and loans totaled $1.2 million. Student assistance, including both hearing and deaf students, ranged from an average of $633 at the Consortium schools to $2,541 at Gallaudet. Students at Gallaudet and NTID, with $5 million and $3.7 million, respectively, were the largest recipients of assistance.

Federal assistance to students at the 10 schools totaled $6.5 million, with the remaining $3.1 million from state, local, and private sources. Although the deaf students received many forms of financial assistance, most of the federal assistance was in the form of vocational rehabilitation grants ($4.2 million) and Pell grants ($1.3 million). The totals for vocational rehabilitation grants represent the federal share of the assistance (80 percent) as this grant is shared with the states. During school year 1984-85, the federal share of student assistance ranged from an average of $531 at the Consortium schools to $1,937 at Seattle.

DEAF STUDENT ACHIEVEMENT AND PLACEMENT DATA

NUMBER OF DEGREES/CERTIFICATES AWARDED TO DEAF STUDENTS IN SCHOOL YEAR 1984-85

Institution	Number	Degree/certificates
Consortium	0	First year with students; no graduates
Seattle	9	8 certificates and 1 associate
Northridge	38	24 bachelor's and 14 master's
St. Paul	65	59 diplomas and 6 certificates
Gallaudet	143	127 bachelor's and 16 master's
NTID	199	76 certificates/diplomas, 86 associate, and 37 bachelor's

The number of deaf student graduates varied among the regional schools, Gallaudet, and NTID. This occurred because the number of deaf students attending each school is different, and the degree programs vary in length from less than 1 year (certificates/diplomas) to 5 or more years (graduate level).

GRADE POINT AVERAGES FOR DEAF AND HEARING STUDENTS, SCHOOL YEAR 1984-85

Institution	Grade point average (4.0 scale)	
	Deaf students	Hearing students
Consortium	2.29	[a]
St. Paul	2.30[b]	2.70[c]
Northridge	2.41[d]	2.57[d]
Seattle	2.47[d]	2.90[d]
Gallaudet	2.94[e]	[f]
NTID	2.58	2.78

[a]Not available.

[b]Based on a sample of 91 students (fall quarter, 1982).

[c]Based on a sample of 550 students (winter quarter, 1983).

[d]Seattle and Northridge reported their grade point averages by school term. The figures represent the highest averages for any term in school year 1984-85.

[e]This represents the grade point average for bachelor of arts degree graduates only.

[f]None.

The comparative grade point averages vary between deaf and hearing students at Seattle, St. Paul, Northridge, and NTID.

CREDIT HOURS FOR
DEAF AND HEARING STUDENTS,
SCHOOL YEAR 1984-85

	Average number of credit hours taken per term	
	Deaf students	Hearing students
Seattle	12.5[a]	10.9[b]
Northridge	12.8	11.6
Gallaudet	15.2	[c]
St. Paul	35[d]	35[d]
Consortium	10 to 14	10 to 14
NTID	[e]	[e]

[a]The number represents academic courses only. Both deaf and hearing students in the trade/vocational area carry the same classload.

[b]This number represents credit hours for all students at Seattle (both hearing and deaf).

[c]None.

[d]St. Paul, unlike the other schools, which use a credit hour basis, operates like a secondary school in that it uses the number of hours the students attend classes during the week--5 days x 7 hours = 35 hours per week.

[e]NTID data showed the percentage of deaf and hearing students that carried classloads in certain ranges, e.g., 1 to 6 hours or 12 to 15 hours. In the fall quarter, 1984, 82 percent of the deaf students carried a classload of 12 or more hours, while 90 percent of the hearing students at RIT carried 12 or more hours of credit.

During school year 1984-85, Seattle had the biggest difference between the number of credit hours taken by deaf and hearing students. In general, however, both deaf and hearing students at the regional schools and NTID carry about the same number of credit hours.

TIME TO COMPLETE
DEGREE PROGRAMS

Institution	Average number of years to complete degree program	
	Deaf students	Hearing students
St. Paul	2	1.5
Consortium	3	2
Northridge	5.4	5.5
Gallaudet	4 to 6	[a]
NTID	2.3 to 5.7[b]	[c]
Seattle	2.3[d]	2.6[d]

[a]None.

[b]NTID data ranged from 2.3 years to complete a 2-year certificate to 5.7 years to complete a 4-year bachelor's degree.

[c]Data were not available for hearing students at RIT.

[d]Seattle reported no difference for students in the vocational programs. However, deaf students may take up to 40 to 100 percent longer to complete some academic programs.

--Deaf students at Northridge took less time than hearing students to complete bachelor's degrees. School officials attribute this to the fact that deaf students have support services available to them which allow them to carry full academic loads and to continue schooling without interruptions.

--The time to complete degree programs at St. Paul, Seattle, Gallaudet, and to a limited extent Consortium schools, includes from one quarter to one year of noncredit preparatory program courses available only to deaf students.

--NTID requires remedial courses in communication, math, and science; it also has a cooperative education (work/study) program which extends the time it takes deaf students to complete degree programs.

ATTRITION RATES FOR ALL STUDENTS, SCHOOL YEAR 1984-85

Institution	Percent of students that left school without graduating	
	Deaf students	Hearing students
St. Paul	30	27
Seattle	54	40 to 50[a]
Gallaudet	20	b
Northridge	23	c
NTID	24	24
Consortium	c	c

[a]Varies on a quarter-to-quarter basis.

[b]None.

[c]Not available.

--In the two schools where we could compare data, there was a difference in the attrition rates between deaf and hearing students.

--The attrition rates for deaf students vary among the regional schools and Gallaudet. We do not know why.

--Seattle's attrition rate appears high. However, because Seattle serves many students with limited educational objectives, such as updating present skills or preparing for admission to other schools, fewer students are expected to graduate from its programs.

DEAF STUDENT POSTGRADUATION DATA

Institution	Percent of graduates employed and/or continuing education in schools years		
	1982-83	1983-84	1984-85
St. Paul	73	74	56
NTID	84	90	70[a]
Gallaudet:			
Bachelor's degree	93	84	a
Master's degree	98	97	a
Northridge, Seattle, and Consortium	b	b	b

[a]Interim data; complete data not available.

[b]Data not available.

--At the three schools where data were available, a large percentage of deaf student graduates are either employed or continuing their education.

--Compiling employment data has not been a high priority for the regional schools.

NUMBER AND COST OF ADDITIONAL DEAF STUDENTS THE SCHOOLS COULD ACCOMMODATE

Institution	Number of additional students	Additional costs	
		Recurring	One-time
		(thousands)	
Northridge	20-31[a]	$357[b]	$42[b]
Seattle	46-56	240	30
St. Paul	25	272	97
NTID	0	0	0
Gallaudet	100	0[c]	0[c]
New River	8	99	9
Chattanooga	10	25[d]	0
St. Petersburg	30	55[d]	2
Central Piedmont	52	120	6
DeKalb	125	99	43

[a]Northridge believes it can accommodate an annual growth of 10 to 15 percent.

[b]This amount also includes moneys for providing increased services to existing students.

[c]Gallaudet does not project federal cost increases for these additional students. Any cost increases would be covered by increased income from tuition, room, board, and fees.

[d]Does not include an indeterminable amount of funds for part-time notetakers and tutoring.

PROVIDING SERVICES TO MORE POSTSECONDARY DEAF STUDENTS

To identify the extent that more deaf students could be served by the schools, we asked the schools' officials to assess whether they were at full capacity in serving deaf students and if given additional resources how many additional deaf students could be provided services. Except for Northridge, the schools indicated that they were at or near capacity in providing services to deaf students. However, the regional schools indicated that, with additional resources, from 241 to 337 additional students could be served. A Gallaudet official said that the school could add 100 deaf students without any additional federal resources. The additional students would be allocated among existing dormitory rooms by increasing the number of occupants in some of the rooms from two to three. The school would increase the size of the classes and also the hours that the instructors are teaching in the classroom. The official said that the school is in the process of increasing the numbers of students attending Gallaudet. An NTID official said that the school currently is exceeding its stated full capacity and could not accommodate additional deaf students.

The regional schools stated that, to increase the number of students served, they would need additional program resources, such as staff and equipment. The staff needs included interpreters, counselors, developmental course instructors, secretaries, and job placement and research specialists. The equipment needs included videotapes, various computer hardware, and vans for transporting deaf students. Equipment is also needed for vocational evaluation and auditory amplification. The resource needs of the five member schools are directed to upgrading and increasing existing resources to handle the additional deaf students.

Even though the regional schools and Gallaudet indicated that they could increase deaf student enrollment, one official said they expect increased demand from deaf students for admission will last for only one more school year. At that time, the demand will decrease because the impact of the rubella bulge will have passed.

(104571)

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